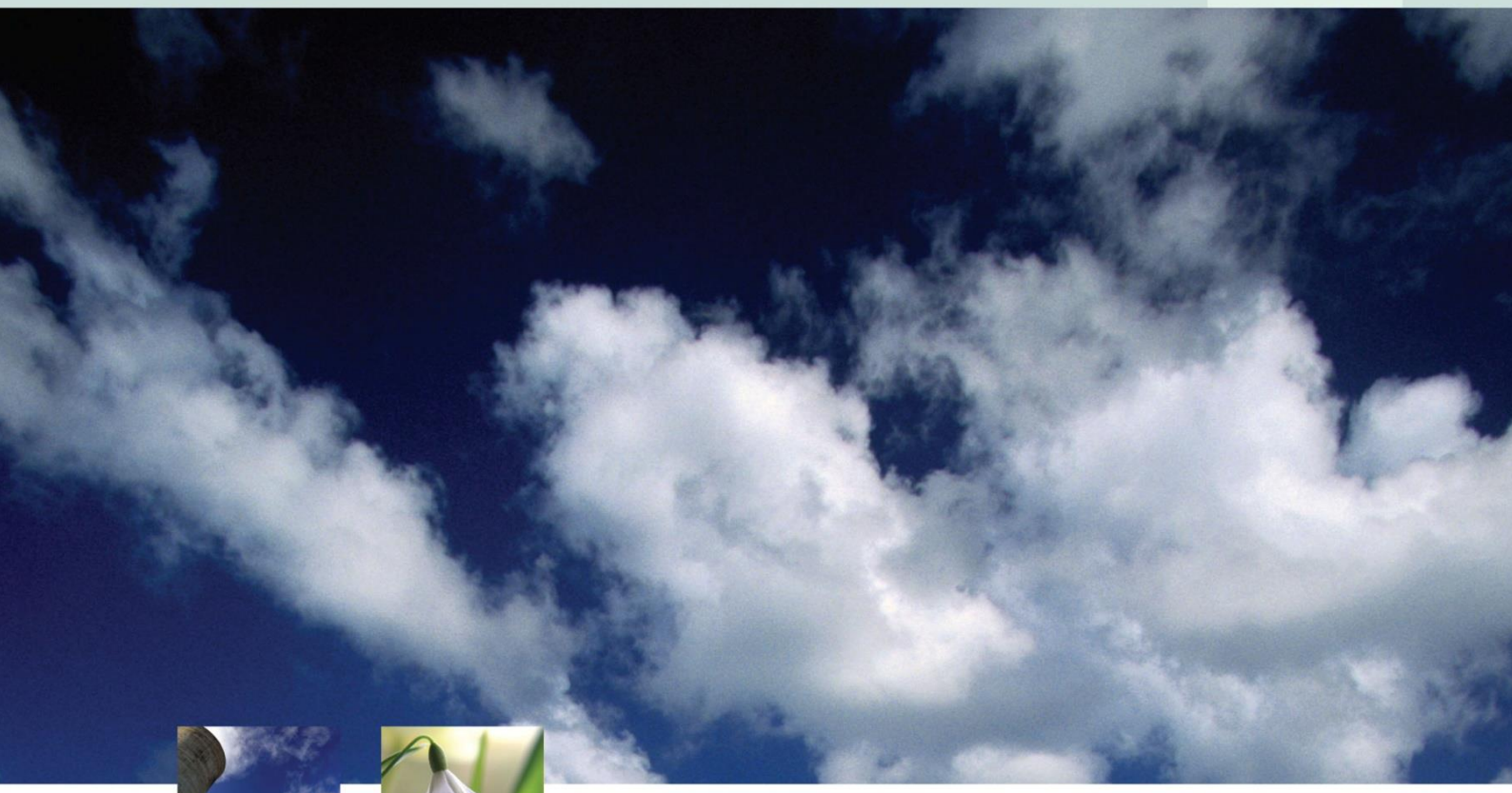

FIRE PREVENTION PLAN

Real Alloy UK Limited
EPR/EP3935UC/V008

Prepared By:
Sol Environment Ltd

Date:
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Contents

1 Introduction

1.1 Introduction

This document has been prepared by Sol Environment Ltd on behalf of Real Alloy UK Limited as a fire prevention and mitigation plan to aid site operations at their existing site in Waunarlwydd Works, Waunarlwydd, Swansea, SA5 4SF.

The document provides a structured framework approach in effectively preventing potential fires associated with the processing and storage operations at the site.

This Fire Prevention Plan document (referred hereafter as the 'FPP') has been produced in accordance with Natural Resources Wales Guidance No. 16 Fire Prevention & Mitigation Plan – Waste Management (August 2017).

This Fire Prevention Plan meets the fundamental objectives of the FPP Guidance as it demonstrates that the site can:

- Minimise the likelihood of a fire happening;
- Aim for fire to be extinguished within 4 hours; and
- Minimise the spread of fire within the site and to neighbouring sites.

1.2 Structure of the Fire Prevention Plan

This FPP has been structured in accordance with the NRW Fire Prevention Plan Guidance and considers the following relevant aspects of the facility:

- Managing Common Causes of Fire;
- Preventing Self Combustion;
- Managing Waste Piles;
- Preventing Fire Spreading;
- Quarantine Area;
- Detecting Fires;
- Supressing Fires;
- Firefighting Techniques;
- Water Supplies;
- Managing Fire Water; and
- During and after an Incident.

1.3 Status of the Fire Prevention Plan

Real Alloy operate and maintain a formal environmental management system which has been certified to meet the requirements of the International Standard BS EN ISO14001:2015.

The FPP is a "live" document and will be added to the environmental management document for the facility. All monitoring procedures, responsibilities and compliance actions will be updated as and when required.

2 Site Background

2.1 Site Operations

Real Alloy UK Limited operate an existing metal processing and recovery facility at their site in Waunarlwydd. They intend to expand operations by increasing input and output volumes of material, and installing a shredder to aid the processing of incoming material. The facility is regulated in accordance with the requirements of the Environmental Permitting Regulations, under the conditions of the Environmental Permit (EPR/EP3935UC). However, due to the proposed changes to the operation, NRW have requested the site has a Fire Prevention Plan to cover the storage of non-hazardous wastes.

The metal recycling plant may process approximately 80,250 tonnes per annum of incoming waste by shredding, baling, and melting to form new metal products including alloys. Other permitted activities include the storage of incoming waste materials and up to 30,000 tonnes per annum of salt slag by-product.

The total incoming waste storage capacity on site is approximately 4,085 m^3.

2.2 Site Setting

The location of the subject Site is shown in Annex A1, centred at approximate National Grid Reference SS 60067 96086. The site installation boundary and general site layout is shown in Annex A2.

The majority of the site operations take place within the existing buildings as shown in the site plans, with external areas used for waste storage, and the new shredder and balers installed inside the existing storage building (Bay 4 on site plans).

The nearest residential receptor is located to the south and at a distance of 115m.

The Natural Resources Wales flood risk map indicates that the site lies within an area where there is no risk of flooding from rivers and the sea.

Although the site is not considered to be highly sensitive in terms of proximity, the facility has been designed to prevent and mitigate the offsite impacts associated with fire as far as practically possible.

The wind direction is predominantly from the south west.

3 Fire Prevention Plan

This Fire Prevention Plan has been developed to include an assessment of fire risk on site and the measures in place to prevent, detect, suppress, mitigate and contain fires.

This plan forms part of Real Alloy's environmental management system and sets out the fire prevention measures and procedures that will be put in place and used on site.

All staff and contractors working on site will understand the contents of the Fire Prevention Plan and what they must do during a fire.

The Fire Prevention Plan will be kept in the Site Office and all staff will be aware of where it is kept.

Regular exercises will be carried out to test how well the plan works and that staff understand what to do. These exercises will take place every quarter.

The only wastes accepted on site are those included in Table S2.2 of the existing permit. The non-hazardous wastes subject to the controls of this FPP are listed in Table 3.1 below.

Table 3.1 Wastes Subject to Controls in this FPP

Waste Code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 10	waste metal
10	WASTES FROM THERMAL PROCESSES
10 03	wastes from aluminium thermal metallurgy
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
12	WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 04	metallic packaging
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance
16 01 17	ferrous metal
16 01 18	non-ferrous metal
17	CONSTRUCTION AND DEMOLITION WASTES
17 04	Metals (including their alloys)
17 04 02	Aluminium
17 04 05	iron and steel

17 04 07	mixed metals
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 01	wastes from incineration or pyrolysis of waste
19 01 02	ferrous materials removed from bottom ash
19 10	wastes from shredding of metal-containing wastes
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 02	ferrous metal
19 12 03	non-ferrous metal
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL,INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	Separately collected fractions
20 01 40	Metals

The only wastes accepted on site are waste metals and wastes from metallurgy. Metals are highly unlikely to self-combust and although skimmings (also labelled as 'dross') are flammable, they are unlikely to self-combust, so with appropriate management there is a very low risk of fire. All batteries will be removed prior to arrival on site which will be ensured during the waste acceptance checks.

This type of permit would not normally require a FPP, and as above these waste types are unlikely to require active fire management. However, NRW have requested specifically a fire prevention and mitigation plan for wastes stored on site, resulting in the need for this document.

3.1 Control of Potential Causes of Fire

The following table identifies common causes of fire and the measures that Real Alloy take to reduce the risk.

Table 3.2 Control of Potential Causes of Fire

Source of Fire	Applicability to Site and Proposed Management Controls	Residual Risk
Arson	The site is currently staffed 24/7. Site access is via security gates. The site has secure fencing along the site boundary. Daily inspection of the site fencing and gates will be undertaken and recorded. The site is also equipped with CCTV monitoring. Any fire would be quickly identified by sites operatives and the visual inspection programme.	VERY LOW
Plant and Equipment	The site has a regular inspection and maintenance programme which will identify any electrical or mechanical machinery faults which could result in a machinery fire.	VERY LOW

	All site plant and equipment is subject to regular inspection, service and maintenance agreements in conjunction with the equipment supplier's recommendations. Mobile plant will be stored externally when not in use or in safe areas on the shopfloor as they are used on a 24/7 basis. All machinery is visually inspected and maintained as per the site EMS.	
Electrical Faults Including Damaged or Exposed Electrical Cables	The risk of damaged or exposed electrical cables is controlled via a regular inspection and maintenance programme. Any fixed electrical installation on site are fully certified by a qualified electrician.	VERY LOW
Discarded Smoking Materials	A designated external smoking area away from storage areas minimises the risk of accidental fire.	VERY LOW
Hot Works	No hot works are permitted without a permit to work being issued and site management being made aware of the work. The hot works will be located at a safe distance from combustible materials. The activity will be very closely managed and with the presence of a fire watchmen.	VERY LOW
Industrial Heaters	The site has written procedures that set out the use and regular maintenance of industrial heaters.	VERY LOW
Hot Exhausts	The site has a regular inspection and maintenance programme which identifies any signs of a fire caused by dust settling on any hot exhausts and engine parts. This is carried out via visual checks throughout the day, monthly checks, and shutdown periods (August & December) Machinery is regularly cleaned to remove any dust, waste, etc. to ensure that this does not accumulate on moving parts.	VERY LOW
Ignition Sources	Any ignition sources on site will be kept at least 6 metres away from the stored waste on site.	N/A
Leaks and Spillages of Oil and Fuels	The prevention of fuels and oil leaking out from site vehicles will be achieved by the regular inspection and maintenance programme. If there are any leaks, the regular inspections allow this to be dealt with straight away. Spill kits are provided throughout the site. All staff are trained on how to use the spill kit as well as the procedures to carry out in the event of a spillage.	VERY LOW
Build-up of Loose Combustible Waste and Dust	The site has a regular inspection and maintenance programme which will identify any build up of wastes and dust. Machinery is regularly cleaned to remove any dust etc. to ensure that it does not accumulate on moving parts. The site is inspected at least twice a day. Any build up of waste and dust would be identified during the inspection.	VERY LOW

	If any dust etc. was identified then the area would be immediately cleaned (swept, blown down etc). Additionally, at the end of every shift the site is cleaned.	
Reactions Between Wastes	All waste is accepted on site in accordance with the sites Waste Acceptance Procedures. This ensures that no incompatible or unstable wastes will be accepted on site. In the unlikely event of incompatible wastes being accepted on site, wastes will be transferred to the quarantine area before removed off site.	VERY LOW
Hot Loads	Real Alloy do not receive hot loads.	N/A
Batteries and capacitors	The product will arrive with batteries removed. This will be achieved via quality check on its arrival.	LOW

3.2 Preventing Self-Combustion

3.2.1 Managing Storage Time

Incoming wastes are tipped directly into their respective designated areas.

Used beverage cans (UBCs) are transported to the site in baled form and stored in 1 of 4 external storage areas. These cans are stored for no longer than 6 months in line with NRW Guidance, though typical turnover of all material on site is monthly.

The 'Dome' building is split into 12 bays. 9 of these bays are used to store dross to keep the material dry and prevent the release of flammable gas. Dross is stored for no longer than 1 month in line with NRW Guidance. The other bays are used to store air craft scrap, flux, and scrap respectively. These are also stored for no longer than 6 months in line with NRW Guidance.

The furnace building has 6 storage bays that are used to store shredded material prior to loading into the furnace. Typically this material is loaded directly into the furnace following shredding and baling but may be stored for up to 24 hours if required.

All storage durations on site are within the stipulated maximum storage times within Table 1 of the NRW Guidance.

Real Alloy will track all material flow through the site to ensure that the storage times specified in this plan are adhered to. All material is tracked daily and will be processed through the site on a 'first in – first out' principle. All storage bays will be managed to ensure full stock rotation is achieved.

For all incoming waste, the location in the building and the first date when the material is added is recorded on the site waste tracking system and uploaded to the company IT system.

A daily review of the storage areas and process inventory will be made in accordance with the EMS.

Waste will be received and accepted in accordance with the established site waste acceptance and rejection procedures.

3.3 Manage Waste Piles

The storage arrangements on site have been designed in accordance with Natural Resources Wales Guidance No. 16 Fire Prevention & Mitigation Plan Guidance – Waste Management. Please refer to Table 3.3 below which details the storage areas on site.

Table 3.3: Waste Storage Information

Storage area	Type of material	Description	Capacity (m^3)
Dome			
1	Dross	Internal undercover storage	120
2	Dross	Internal undercover storage	120
3	Dross	Internal undercover storage	120
4	Dross	Internal undercover storage	120
5	Dross	Internal undercover storage	120
6	Dross	Internal undercover storage	120
7	Dross	Internal undercover storage	120
8	Air craft scrap	Internal undercover storage	120
9	Flux	Internal undercover storage	120
10	Scrap	Internal undercover storage	200
11	Dross	Internal undercover storage	280
12	Dross	Internal undercover storage	300
Furnace building			
13	Shredded material/Dross	Internal undercover storage	60
14	Shredded material/Dross	Internal undercover storage	60
15	Shredded material/Dross	Internal undercover storage	60
X	Shredded material	Internal undercover storage	60
Y	Shredded material	Internal undercover storage	60
Z	Shredded material	Internal undercover storage	60
Dross storage	Dross	Internal undercover storage	300
External			
Adjacent to car park	UBC	External storage	680
Adjacent to car park (opposite side)	UBC	External storage	100
Adjacent to wash bay	UBC	External storage	45
Adjacent to raw material UBC Storage	UBC	External storage	90 (3 x 30m^3 bays)
Parallel to saltcake storage	UBC	External storage	650
Quarantine area (adjacent to car park)	N/A	External storage	1,280 (16m x 20m x up to 4m high)
		Max onsite capacity	**4,085 (not incl. quarantine)**

3.4 Prevent Fire Spreading

3.4.1 Separation Distances

Due to the use of concrete fire walls inside buildings, separation distances are not required. External storage areas and the quarantine area are separated by at least 6m in line with NRW Guidance.

3.4.2 Fire Walls and Bays

All existing bay walls are constructed from concrete. External bays walls are constructed of Legio blocks, which are fire resistance as standard. All bays will have a 1m freeboard at all times.

Real Alloy will keep records of the material stored within the storage areas to ensure that not storage times are exceeded. All material is tracked daily and will be processed through the site on a 'first in – first out' principle.

Due to the storage arrangements and the nature of the wastes stored on site, temperature monitoring is not considered necessary.

In the event of a fire being detected, as long as it is safe to do so, waste may be moved to the quarantine area.

A trained site operative will carry out a visual inspection daily in accordance with site procedures to ensure that all areas are being managed correctly and in line with the Fire Prevention Plan.

3.4.3 Seasonality and Waste Stack Management

The materials stored on site are not subject to seasonal variation.

Real Alloy will track all material flow through the site to ensure that the storage times specified in this plan are adhered to. All material is tracked daily and will be processed through the site on a 'first in – first out' principle.

3.4.4 Monitor and Control Temperature

Due to the nature of the wastes being stored and the temperature inside the furnace building, temperature monitoring is not considered practical.

Dust suppression is not appropriate for dampening wastes as some waste types (particularly stored internally) may produce flammable gases when in contact with water.

Due to the storage arrangements, turning of waste is not considered necessary.

3.5 Detecting Fires

The site has the following existing fire controls for detecting a fire:

- Dedicated fire marshals;
- Manual fire alarm activation within the buildings;
- Fire / emergency protocols controlled by security;
- CCTV which is recording 24/7;
- Physical fire warden checks.

Any fires on site would be immediately identified. In the event of a fire, a member of staff will immediately raise the alarm, with 'break-glass' emergency alarms positioned throughout the buildings, and then contact the emergency services.

A trained site operative will carry out a visual inspection on site twice daily to ensure that the Processing Building is being managed correctly and that all detection systems are working correctly.

3.6 Fire Extinguishers

There are powder fire extinguishers positioned throughout the site buildings and on plant equipment where practical. As mentioned in section 3.4.4, suppression is not suitable on this site do to the nature of the wastes.

There is a sufficient number of fire extinguishers located throughout the premises which are all mounted on wall brackets. A fire extinguisher schedule ensure that all extinguishers are regularly inspected. In addition to internal checks, external checks are completed 3 monthly.

3.7 Fire Fighting Techniques

The site has been designed in order to allow active firefighting.

An off-site emergency information pack will be provided in at security at the main gate into the site and contains emergency contact numbers, a site plan and copy of this FPP.

The fire access route shown on the site plan will be inspected as part of the site walkover inspections to ensure that safe access to the site for fire and rescue services and other emergency responders is always achieved. In the event that anything is blocking the route, it will be immediately flagged to the Site Manager and removed.

The site's only entrance is on the eastern boundary of the site. The access point will remain clear at all times and also be checked as part of security arrangements by the external security company.

Upon identifying or being made aware of a fire, the person discovering the fire will raise the alarm, alert all present on site to the fire and its location and alert emergency services.

The site will be evacuated in accordance with the site evacuation plan with exception of those staff involved in active fire fighting.

All staff, contractors, and visitors would follow the Fire Evacuation procedure as included in Section 3.8.

Staff will only tackle the fire using the fire extinguishers if it is safe to do so. If not safe to do so, staff are to await the Fire and Rescue Service (FRS), who would then take the appropriate actions.

All personnel working on site will be provided training in the Fire Prevention Plan and all associated procedures and controls. Refresher training will be conducted at least annually.

The FPP training will be provided to all new starters and temporary employees working at the site.

It is important to note that the FRS (Mid and West Wales Fire) recently visited site and have approved the fire fighting techniques on site and have the site plans and associated information on their systems.

3.8 Fire Evacuation

The site has designated fire assembly points and internal assembly points as shown on the site plans provided within *Annex A*.

Sites rules are reinforced via use of fire drills and planned response scenarios.

All personnel to follow the instructions of the Fire Marshals and the Site Manager.

A list of trained Fire Marshals is maintained .

The Fire Evacuation Procedure is provided to staff, contractors, and visitors which states:

- On discovery of a fire, immediately operate the fire alarm by pressing the nearest break glass call point and / or contact the Site Manager via a radio to ensure the alarm is raised;
- Fire Marshals and staff must only tackle the fire if they are trained to do so, the equipment is appropriate and if their safety or that of others is not compromised.
- Leave the building / work area by the nearest available exit / safe route and report directly to the assembly point located in the car park.
- Leave quickly but in a calm, controlled, and orderly manner. Do not detour to collect personal items;
- Do not re-enter the building / work area for any reason until authorisation has been given by the Site Manager / Fire and Rescue Service.
- The Site Manager will assess the situation and call the Fire and Rescue Service if required.

This document is reviewed and updated annually, or sooner if required. The document details all hazards and the control measures that are in place and / or required to prevent fires.

3.9 Water Supplies

The site has a mains water connection as shown on the site plans provided within *Annex A.*

The nature of the wastes means that using water for firefighting is not practicable or appropriate. Fire fighting will need to be conducted using powder fire extinguishers.

3.10 Managing Fire Water

In the event of a fire within storage areas, water will not be used for firefighting. However, the site is equipped with an interceptor ensuring any runoff is contained on site.

Any runoff will be removed via tanker and transported offsite to an appropriate treatment facility.

The NRW fire water calculation guidance does not apply in this case as described above but with a mains supply the site would meet this requirement.

3.11 Quarantine Area

The site is equipped with an quarantine bay which is located externally adjacent to the car park.

The quarantine area has been designed to hold 1,280m^3 (16m x 20m and up to 4m high) which is in excess of the FPP Guidance requirements.

The location of the quarantine area is identified on the site plans provided within *Annex A.*

3.12 During and After an Incident

During an Incident

During any fire fighting or subsequent clear up operations, any incoming wastes will be diverted to an alternative waste processing site.

In the event of a fire that may impact the sensitive receptors, the nearby residential receptors will either be contacted via phone or trained site operatives will knock on the residents' doors to make the residents aware.

After an Incident

The site will be thoroughly cleaned after an incident. Any charred / partially combusted / combusted products will be disposed of an appropriate facility. It is anticipated that the clearing of combusted material will not take long, as the company are confident that any fires will be appropriately controlled and therefore will not result in significant volumes of burnt waste.

All fire fighting powder residues will be cleaned and removed off site.

All equipment will be checked for any fire damage. In the event that any equipment has been damaged, it will be removed from site and fixed / replaced as soon as possible.

This ensures that the impact to the community, infrastructure and the environment is minimal.

Annex A: Site Plans

Annex B: Drainage Plan